

CLAIMS

1. (Currently Amended) A spinal rod sleeve system comprising at least two bone engaging anchors;
at least one longitudinal spinal rod that extends substantially along the center line of the bone engaging anchors, wherein at least a portion of the rod is disposed within at least two concentric sleeves, and wherein each of said sleeves having further comprises an internal bearing layer and an external layer; and
at least one bumper disposed on the spinal rod between said at least two sleeves.
2. (Original) A system as in Claim 1 wherein said internal bearing layer is a low-friction material.
3. (Original) A system as in Claim 1 wherein said internal bearing layer is a plastic.
4. (Original) A system as in Claim 1 wherein said internal bearing layer is UHMWPE.
5. (Original) A system as in Claim 1 wherein said external layer is a metal.
6. (Original) A system as in Claim 1 wherein said external layer is a material selected from the group consisting of stainless steel, stainless steel alloys, cobalt chrome, cobalt chrome alloys, titanium and titanium alloys.

7. (Withdrawn) A method for treating a spinal disorder whose treatment would benefit from allowing a vertebra to slide cephalad or caudad along a spinal rod sleeve, or otherwise preserving spinal motion, comprising providing a spinal rod sleeve system as in Claim 1 and anchoring said spinal rod sleeve system to a patient's spinal lamina, spinous processes, pedicles or posterior elements of the spine.

8. (Withdrawn) A method for treating long, progressive scoliotic curves in young patients while preserving longitudinal growth, comprising the steps of providing a spinal rod sleeve system as in Claim 1 and anchoring said spinal rod sleeve system to a patient's spinal lamina, spinous processes, pedicles or posterior elements of the spine.

9. (Original) A system as in Claim 1, wherein said spinal rod is free to glide within said sleeve.

10. (Original) A system as in Claim 1, further comprising an anchor to a bone, to which said sleeve is attached.

11. (Cancelled)

12. (Currently Amended) A system as in Claim 10 ~~++~~ wherein said bumper ~~or sleeve~~ is placed so as to restrict spinal extension to a desired range.

13. (Currently Amended) A system as in Claim 12 wherein said desired range is chosen so as to maintain a desired distance between ~~rod~~ sleeves.

14. (Currently Amended) A system as in Claim 10 44 wherein said anchor is selected from among the group consisting of screws, pedicle screws, wires, sublaminar wires and hooks.

15. (Withdrawn) A method as in Claim 7, further comprising establishing a polyaxial (or rotating) or monoaxial (or fixed) attachment to the rod which selects out unwanted motion directions thereby allowing variation of the distance between vertebrae.

16. (Withdrawn) A spinal rod for a spinal rod sleeve system comprising a longitudinal spinal rod having an inner core and an outer bearing surface, said inner core being comparatively hard in relation to said outer bearing surface, and said outer bearing surface being composed of UHMWPE.

17. (Withdrawn) A spinal rod sleeve for a spinal rod sleeve system comprising a sleeve having an outer casing surface and an inner bearing surface, said outer casing surface being comparatively hard in relation to said inner bearing surface, and said inner bearing surface being composed of UHMWPE.

18. (Original) A system for low friction arthroplasty, comprising a core disposed within a concentric sleeve which is harder than said core, so as to facilitate motion by articulation of said core with said concentric sleeve.

19. (New) A system as in Claim 1 wherein during extension the at least one bumper is adjacent to at least one of said sleeves.

20. (New) A system as in Claim 1 wherein during flexion there is a gap between the at least one bumper and at least one of said sleeves.

21. (New) A system as in Claim 1 comprising at least one crosslinking unit, wherein said crosslinking unit constrains movement of adjacent spinal rods.

22. (New) A system as in Claim 1 comprising means for rigid fixation, wherein the means for rigid fixation constrains movement of said spinal rod or said sleeves.

23. (New) A system as in Claim 1 wherein the internal bearing layer and the external layer are different materials.

24. (New) A spinal rod sleeve system comprising at least two bone engaging anchors; at least one longitudinal spinal rod that extends substantially along an axis located between the bone engaging anchors and a spinous process of the spine, wherein at least a portion of the rod is disposed within at least two sleeves, and wherein each of said sleeves further comprises an internal bearing layer and an external layer; and at least one bumper disposed on the spinal rod between said at least two sleeves.